

In the claims: The claims are as follows.

1. (Original) A diaphragm pump, having a diaphragm coupled to a wobble plate, the diaphragm and the wobble plate each having a front surface disposed so as to face the other, the diaphragm pump characterized in that the coupling comprises:

a post (11) protruding from the front surface of the wobble plate and at least partially surrounded by a collar (11a); and

a pin (22) protruding from the front surface of the diaphragm, the pin (22) having a recess (22a) for mating with the post (11), and having an outer portion (22b) surrounding the recess (22a) and able to resiliently deform so as to squeeze through the collar (11a) when the pin (22) is pushed onto the post (11).

2. (Original) A diaphragm pump as in claim 1, wherein the outer portion (22b) of the pin includes a locking feature (22c) for holding the pin (22) on the post (11) when the pin (22) is pushed onto the post (11).

3. (Original) A diaphragm pump as in claim 1, further characterized in that the pin (22) and the diaphragm are made from respective different thermoplastic materials, and the pin (22) is made from a harder material than the diaphragm.

4. (Original) A diaphragm pump as in claim 3, wherein the respective different thermoplastic materials are from the same family of thermoplastic materials.

5. (Original) A diaphragm pump as in claim 1, further characterized in that the pin (22) is formed so as to have one or more ring features (22d) along a bonding area between the pin (22) and the diaphragm.

6. (Original) A method for use in making a diaphragm pump having a diaphragm coupled to a wobble plate, the diaphragm and the wobble plate each having a front surface disposed so as to face the other, the method characterized by:

providing a post (11) protruding from the front surface of the wobble plate and at least partially surrounded by a collar (11a); and

providing a pin (22) protruding from the front surface of the diaphragm, the pin (22) having a recess (22a) for mating with the post (11), and having an outer portion (22b) surrounding the recess (22a) and able to resiliently deform so as to squeeze through the collar (11a) when the pin (22) is pushed onto the post (11).

7. (Original) A method as in claim 6, wherein the outer portion (22b) of the pin includes a locking feature (22c) for holding the pin (22) on the post (11) when the pin (22) is pushed onto the post (11).

8. (Original) A method pump as in claim 6, further characterized in that the pin (22) and the diaphragm are made from respective different thermoplastic materials, and the pin (22) is made from a harder material than the diaphragm.

9. (Original) A method pump as in claim 8, wherein the respective different thermoplastic materials are from the same family of thermoplastic materials.

10. (Original) A method pump as in claim 6, further characterized in that the pin (22) is formed so as to have one or more ring features (22d) along a bonding area between the pin (22) and the diaphragm.

11. (New) A diaphragm pump as in claim 1, wherein the collar (11a) extends outward from the wobble plate toward a distal end of the post (11) substantially the same distance as the post (11).

12. (New) A diaphragm as in claim 11, further wherein the collar (11a) includes a region protruding radially inward toward the distal end of the post (11), and the outer portion (22b) of the pin (22) includes a thickened region (22c) serving as a locking feature, wherein after the pin (22) is pushed onto the post (11) the thickened region (22c) of the outer portion (22b) of the pin (22) occupies a region between the post (11) and the collar (11a) and is prevented from being removed by interference of the thickened region (22c) with the region of the collar (11a) protruding radially inward toward the distal end of the post (11).

13. (New) A method as in claim 6, wherein the collar (11a) extends outward from the wobble plate toward a distal end of the post (11) substantially the same distance as the post (11).

14. (New) A method as in claim 13, further wherein the collar (11a) and includes a region protruding radially inward toward the distal end of the post (11), and the outer portion (22b) of the pin (22) includes a thickened region (22c) serving as a locking feature, wherein after the pin (22) is pushed onto the post (11) the thickened region (22c) of the outer portion (22b) of the pin (22) occupies a region between the post (11) and the collar (11a) and is prevented from being removed by interference of the thickened region (22c) with the region of the collar (11a) protruding radially inward toward the distal end of the post (11).

15. (New) A diaphragm pump, having a diaphragm as a first component coupled to a wobble plate as a second component, the diaphragm and the wobble plate each having a front surface disposed so as to face the other, the diaphragm pump characterized

in that the coupling comprises:

a post (11) protruding from the front surface of one of the components and at least partially surrounded by a collar (11a) having a surface for serving as a stop; and

a pin (22) protruding from the front surface of the other of the components, the pin (22) having a recess (22a) for mating with the post (11), and having an outer portion (22b) substantially surrounding the recess (22a) including a wider section and a narrower section connected by a surface serving as a stop for engagement with the stop surface of the post.

16. (New) A method for use in making a diaphragm pump having a diaphragm as one component coupled to a wobble plate as another component, the diaphragm and the wobble plate each having a front surface disposed so as to face the other, the method characterized by:

providing a post (11) protruding from the front surface of one of the components and at least partially surrounded by a collar (11a); and

providing a pin (22) protruding from the front surface of the other of the components, the pin (22) having a recess (22a) for mating with the post (11), and having an outer portion (22b) substantially surrounding the recess (22a) including a wider section and a narrower section connected by a surface serving as a stop for engagement with the stop surface of the post.